

MANGROVE ECOSYSTEMS

**A MANUAL FOR THE ASSESSMENT
OF BIODIVERSITY**

**A follow up of the
National Agricultural Technology Project
(NATP.), ICAR.**

*Mangrove Ecosystem Biodiversity :
Its Influence on the Natural Recruitment of
Selected Commercially Important Finfish and Shellfish
Species in Fisheries*

Edited by :

Dr. George J. Parayannilam



Central Marine Fisheries Research Institute
(Indian Council of Agricultural Research)

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A Manual for the Assessment of Biodiversity

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Mammals

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Mammals of Mangrove Ecosystems

Species	Common Name
Class - Mammalia	
Sub-Class - Theria	
Infra-Class - Eutheria	
Order - Insectivora	
Family - Soricidae	
<i>Suncus murinus</i> (Shaw)	House Shrew
<i>Pteropus giganteus giganteus</i> (Brunnich)	Indian Flying Fox
<i>Cynopterus sphinx sphinx</i> (Vahl)	Short-nosed Fruit Bat
<i>Taphozous longimanus longimanus</i> Hardwicke	Long-armed Sheath-tailed Bat
<i>Megaderma lyra lyra</i> Geoffroy	Indian False Vampire
<i>Rhinolophus lepidus lepidus</i> Blyth	Little Indian Horse-shoe Bat
<i>Pipistrellus mimus</i> Wroughton	Indian Pygmy Pipistrelle
<i>Scotophilus kuhli kuhli</i> Leach	Lesser Yellow Bat
<i>Macaca mulatta mulatta</i> (Zimmermann)	Rhesus Macaque
<i>Presbytis entellus entellus</i> (Dufresne)	Hanuman Langur
<i>Manis crassicaudata</i> Gray	Indian Pangolin
<i>Canis aureus indicus</i> Hodgson	Asiatic Jackal
<i>Vulpes bengalensis</i> (Shaw)	Bengal fox
<i>Viverra zibetha zibetha</i> Linnaeus	Large Indian Civet
<i>Viverricula indica indica</i> (Desmarest)	Small Indian Civet
<i>Herpestes auropunctatus auropunctatus</i> (Hodgson)	Small Indian Mongoose
<i>Herpestes palustris</i> Ghose	Marsh Mongoose
<i>Felis chaus kutas</i> Hodgson	Jungle cat
<i>Felis bengalensis bengalensis</i> Kerr	Leopard Cat
<i>Felis viverrina</i> Bennett	Fishing cat
<i>Panthera tigris tigris</i> (Linnaeus)	Tiger
<i>Sus scrofa cristatus</i> Wagner	Indian Wild Boar
<i>Axis axis axis</i> (Erxleben)	Spotted Deer
<i>Funambulus pennanti</i> Wroughton	Northern Palm Squirrel
<i>Hystrix indica indica</i> Kerr	Indian Crested Porcupine
<i>Rattus rattus arboreus</i> (Horsfield)	House Rat
<i>Mus musculus urbanus</i> Hodgson	House Mouse
<i>Mus booduga booduga</i> (Gray)	Little Indian Field Mouse
<i>Bandicota bengalensis bengalensis</i> Gray	Lesser Bandicoot-Rat
<i>Platanista gangetica</i> (Roxburgh)	Gangetic Dolphin

Diagnostic characters of different species:1. *Suncus murinus caerulescens* (Shaw)

[Common name - House Shrew]

Largest of the Indian house shrews; fur short, less than 5mm in length; tail thick on base and thinly clad with hairs.

2. *Pteropus giganteus giganteus* (Brinnich)

[Common name - Indian Flying Fox]

Large bat rufous-brown around head and neck; a conspicuous orange or honey-coloured band across upper back; lower back blackish brown; ventral parts dark chestnut brown; naked skin of wings, uropatagium, ears and muzzle jet black; no external tail; a narrow flap of skin inside each leg.

3. *Cynopterus sphinx sphinx* (Vahl)

[Common name - Short-nosed Fruit Bat]

Medium-sized (forearm around 70.0mm) fruit bat with white margin to ears; metacarpals and phalanges whitish; nostrils divergent with deep inter-nasal groove; dorsal colour grey or greyish-brown, paler ventrally (often with a broad rufescent or chestnut area around the shoulders and throat); naked skin of wings, muzzle, etc., blackish brown; tail reduced and rod-like.

4. *Taphozous longimanus longimanus* Hardwicke

[Common name - Long-armed Sheath-tailed Bat]

A dark brown (adult males usually lighter brown), medium-sized bat with broad tragus; gular sac moderately developed in males and in females represented by a rudimentary fold of naked skin; radio-metacarpal pouch moderately developed; inner margin of ear smooth (not papillate); lower lip scarcely grooved.

5. *Megaderma lyra lyra* Geoffroy

[Common name - Indian False Vampire]

Medium sized bat (but larger than *M. spasma spasma*); forearm (60-70mm); posterior termination of nose-leaf truncated; dorsal colour slaty grey.

6. *Rhinolophus lepidus lepidus* Blyth

[common name - Little Indian Horse-shoe Bat]

Small, (forearm around 40.0 mm on average); connecting process higher than top of sella

forming a deep notch between them; skull broader zygomatic width more than 8mm, maxillary tooth-row longer, more than 6mm.

7. *Pipistrellus mimus* Wroughton

[Common name - Indian Pygmy Pipistrelle]

Smallest (forearm 25.0-32.0mm) Fur dense and short; dorsal coloration bistre brown, base of hairs almost black; ventral parts lighter; face, ears and wing-membranes almost black; ears small and scarcely triangular; tragus short and curved forward; post-calcarial lobe present; wings from base of toes.

8. *Scotophilus kuhli kuhli* Leach

[Common name- Lesser Yellow Bat]

Ears small, round at tips; tragus semilunar, markedly convex on posterior border, concave anteriorly, tip slender and forward pointing; wing from side of foot near base of toe; tip of tail free; fur short, dense and sleek; dorsal colour olive-brown, ventral colour creamy white with a tinge of red.

9. *Macaca mulatta mulatta* (Zimmermann)

[Common name - Rhesus Macaque]

Medium-sized, with a rather short tail (about half of the head and body length); crown hairs grow back from brows; face light pink; upper back olive in colour; loins, rump and base of tail of orange red hue.

10. *Presbytis entellus entellus* (Dufresne)

[Common name - Hanuman Langur]

A large black faced, grey bodied langur with long limbs, tail longer than head and body; whiskers short, only partly covering the ears; crown of head a little paler than the nape and shoulders; crown hairs radiate from a frontal whorl; hands and feet black or brown and strongly contrasted with that of arms and legs.

11. *Manis crassicaudata* Gray

[Common name - Indian Pangolin]

Body covered with 11-13 longitudinal rows of overlapping horny scales; tip of tail without any naked glandular area.

12 *Canis aureus indicus* Hodgson

[Common name - Asiatic Jackal]

Smaller than wolf, and lacks the arching brows and elevated forehead; dorsal colour typically a

mixture of black and white, washed with buff about the shoulders, ears and legs.

13. *Vulpes bengalensis* (Shaw)

[Common name - Bengal fox]

A grey-coloured fox, having slender limbs, back of ears sandy brown and tail-tip black.

14. *Viverra zibetha zibetha* Linnaeus

[Common name - Large Indian Civet]

Body markings indistinct and cloudy; tail with complete dark and light rings; crest of long, black, erectile hairs present on the back; anterior upper molars distinctly triangular.

15. *Viverricula indica indica* (Desmarest)

[Common name - Small Indian Civet]

Body pattern consists of small spots on the fore-quarters, larger spots tending to run into longitudinal lines on the flanks and form six to eight strips down the back; muzzle short and weak; no dorsal crest of long hairs on the back; claws unprotected by sheaths of skin.

16. *Herpestes auropunctatus auropunctatus* (Hodgson)

[Common name - Small Indian Mongoose]

Contour hairs short, soft, with a few bands; legs not darker than body; muzzle dark brown; cranium gradually narrows from the orbit.

17. *Herpestes palustris* Ghose

[Common name - Marsh Mongoose]

Muzzle black; cranium narrows abruptly behind the orbit so that postorbital region appears as a constriction between frontals and cranium.

18. *Felis chaus kutas* Hodgson

[Common name - Jungle cat]

Medium-sized, head and body 64-72 cm in length; tail terminating in a black tip; pelage unspotted except on lower flanks and elbow; black horizontal strips on the innerside of forelegs; back of ears reddish chestnut with inconspicuous hair tuft.

19. *Felis bengalensis bengalensis* Kerr

[Common name - Leopard Cat]

A small-sized cat, head and body length 61-66 cm; back of ears black, with round whitish spot

in the centre; pelage ornamented throughout with blackish brown spots; four longitudinal black bands commence on the forehead, continue over the head to the neck, then break up into short bands or elongated sets on the shoulders.

20. *Felis viverrina* Bennett

[Common name - Fishing cat]

A medium-sized cat, head and body length 66-70 cm; back of ears black, with round whitish spot in the centre; body covered with black or brown spots throughout, spots always longer than broad; six to eight black lines run from the forehead to the nape, breaking up into shorter lines and spots on the shoulders; several cross bands present on the forehead and throat.

21. *Panthera tigris tigris* (Linnaeus)

[Common name - Tiger]

Ground colour body orange-Tawny, with vertical black stripes.

22. *Sus scrofa cristatus* Wagner

[Common name - Indian Wild Boar]

Large, height at shoulders 76-102 cm; a crest of black bristles present from nape to the back; tail long, extending nearly to hocks.

23. *Axis axis axis* (Erxleben)

[Common name - Spotted Deer]

Coat bright rufous-fawn, profusely spotted with white, at all ages and seasons; Antlers with three tines, a long brow-tine set nearly at right angles to the beam; latter divides into two branches.

24. *Funambulus pennanti* Wroughton

[Common name - Northern Palm Squirrel, Five-striped Squirrel]

Dorsal surface of body having 5 buff stripes.

25. *Hystrix indica indica* Kerr

[Common name - Indian Crested Porcupine]

A crest of bristles, 15-30 cm long, present on the crown; quills bear several alternating bands of white and blackish brown.

26. *Rattus rattus arboreus* (Horsfield)

[Common name - House Rat]

Under parts of body white or dirty white; maxillary tooth row less than 6.6mm in length or more than 16% of occipitonasal length.

27. *Mus musculus urbanus* Hodgson

[Common name - House Mouse]

Anterior palatal foramina long, more than one-fifth of occipitonasal length, and extending posteriorly between maxillary tooth rows.

28. *Mus booduga booduga* (Gray)

[Common name - Little Indian Field Mouse]

Body fur soft; smaller in size, occipitonasal length less than 20mm; Ventral surface of body white in colour.

29. *Bandicota bengalensis bengalensis* Gray

[Common name - Lesser Bandicoot-Rat]

Size small, head and body length less than 220 mm, anterior palatal foramina narrower posteriorly; nasals short, less than one-third occipitonasal length.

30. *Platanista gangetica* (Roxburgh)

[Common name - Gangetic Dolphin]

Body-size 214-244 cm, but sometimes a little longer; females larger than males. Colour of body blackish throughout; Dorsal fin rudimentary.

*Axis axis**Panthera tigris tigris*